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ABSTRACT

Technology is the subject of so much attention in education today, first, because of its prevalence; second, because it promises to provide education at lower cost; and third, because technology can help some people to participate more easily in education, to learn more effectively, and to enjoy learning more. Although there are problems connected with using technology in adult education, such as lack of skills in using technology and lack of access for those without adequate finances to acquire it, technology will continue to be important in education because it will allow learners to access knowledge in their homes, in their workplaces, at times they want to learn. For adult educators, the advent of technology means less lecturing and information imparting as learners acquire more information from outside sources. Teachers will need to advise learners about how to search for information and how to assess the quality of the information they find, and to encourage learners to collaborate in learning. Teachers need skills to select the most suitable delivery methods and technologies for their students and they need the technical skills to operate their chosen technologies. Professional development and technical support are needed. (KC)

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Technology in education...

Do we need it?

by **Pheobe Palmieri**

Sometimes it seems as if the whole world is obsessed with technology. Television, virtual shopping, telemedicine, technology in learning. We have EdNA, Open Learning, Telecentres, Virtual Campuses... Why won't it all just go away and let us get on with being people, and teaching our students as we used to?

Well, of course we know why it won't, but it is perhaps worth enumerating the reasons why technology is the subject of so much attention in education at the moment.

First, because it's there. New tools and new toys attract attention; there are plenty of us who like to play with new gadgets; and of course, there is always the chance they will do something useful.

Secondly, because it holds out the promise of achieving more; even more attractively, these days, of doing more with less. Governments and education and training agencies are explicitly funding investigation of and investment in technology with the hope of saving money.

And thirdly, because technology can actually help some people to participate more easily in education, to learn more effectively, and to enjoy learning more.

Inclusive or exclusive?

On the other hand, we know that there are some people who can be excluded from education if technology is over-emphasised. I am writing this article in my office in suburban Melbourne, where I have a reliable electricity supply and a crackle-free telephone line. This enables me to plug in my computer, to send and receive faxes, to do my research on the World Wide Web, and to send in this article by e-mail when I have finished it. And my company can afford to buy me the computer and the rest of the hardware, and to pay my Internet service provider and my telephone bill. If I lived in a remote area with an unreliable telephone line and electricity service, or if I were a low-income student with an ancient computer and no prospect of an upgrade, I would not be able to do this. Even if I were a teacher I could not do it if I had to share a computer with three colleagues, and if just one or two telephone lines were shared by the whole organisation.

I believe that technologies have much to offer to education, and in any case they are here to stay whether we like it or not. But it is my experience that if I start by discussing the opportunities and benefits, some readers will switch off because they are aware of the problems that unthinking use of technology can bring. So I would like to discuss some of the problems first.

I identify two main types of problems: those associated with a perceived lack of skills in using technology, and those associated with finance.

Some people have a view that the introduction of technology disadvantages women and other equity and access target

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(see centre page insert)

groups, on the grounds that they generally have not developed technical skills or confidence in using technology in their earlier lives. I agree that to expect anyone to use technology when they do not know how is to reinforce existing disadvantage. I do not believe, however, that the answer is to dismiss the technology; that is, in my view, only another way of reinforcing stereotypes of disadvantaged groups. Far better is to add to courses a component of skill building and confidence development so that the learners are able to make full use of technological as well as other opportunities. The challenge here for educational organisations is to provide this component without adding unduly to the cost or time of the program.

The difficulties of cost and technical access are not easy to overcome. As I said earlier, not everyone can afford the equipment; and the technology networks do not stretch to every part of Australia. How can this challenge be approached? I have identified some possible ways to approach it; you may think of others. Each of them demands that you have a good knowledge of who your learners are and what their circumstances are likely to be.

If your organisation has the funds, you may subsidise access to technology, perhaps by providing plenty of computers in a library or learning centre, or by providing equipment on loan to individual students. This requires not only a substantial investment up front, but the continuing costs of maintenance and replacement. Such investment may be feasible for a large organisation or one which has industry or other partners who are prepared to share the expense. Some of the cost may be offset by saving on the cost of teachers travelling to distant learning centres, and through teachers being able to handle larger groups of students when learning is supported by technology.

You may decide that learners simply have to provide their own equipment. This will limit learners to the kind of technology-assisted learning that can be supported by home-based equipment, and you will need to acknowledge that some learners will be excluded as a result of this decision.

You may decide that you cannot offer any subsidy to learners in acquiring or using technology, but that you can offer an alternative method of delivery which does not rely on technology. This will eliminate exclusion of particular learners, but care must be taken to ensure that equivalent outcomes and standards of delivery and support apply to each method of delivery.

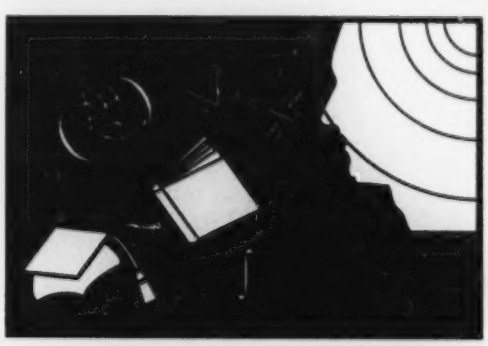
I have used the phrase '*you* may decide' a number of times. This may seem contrary to the current policy of government to support flexible delivery, with the implication that learners should choose for themselves how, when and where they learn. This notion bears examination, however. With the increasing emphasis in all sectors on training (with its implication of opposition to more general education), much of the choice in adult education is either made by industry or with industry's needs in mind. Where the needs of individual learners are still paramount, it is not always the case that they can make decisions individually about delivery methods. School-age students, for example, should generally have their programs designed for them, perhaps with more input in the later years into the content and delivery.

Adult learners should desirably take progressive control of their learning, but again, those who are returning to study after a long interval may neither need nor be able to make informed decisions about delivery methods, though they can develop the ability as their experience and confidence grows.

It is my opinion, then, that educational organisations retain a professional responsibility to make decisions on behalf of their students, sometimes but not always consulting the students in doing so.

In addition to this responsibility, organisations must naturally make decisions that are practically and economically feasible. For example, there would be few organisations who could manage to give students the choice of a dozen delivery methods in one program. Even if the funding were available, the logistics would be impossible. It is therefore generally necessary to make a decision to offer one or two delivery methods (perhaps incorporating some minor variations) to any given group of learners. It is, however, possible to make this decision based on a thorough understanding of that group's educational backgrounds and life circumstances. For example, are they predominantly home-based? Are most of them employed in a workplace where computers are readily available? Do their daily patterns mean that they most value flexibility of time or of place, or is instant interaction with a teacher the most important characteristic of learning for them?

So far I have introduced a number of managerial complications without discussing technology very much. I have done this deliberately because, in my view, the way in which technology is supported both by the organisation's thinking about learners and the organisation's way of managing itself are both critical to its successful introduction.



Why will technology continue to be important?

I have looked at some of the difficulties surrounding a move towards technology in education. What, then, will lead us to persist with this move?

The Australian National Flexible Delivery Taskforce in 1996 summarised the needs of learners in the vocational education and training sector as follows:

- relevant skills and knowledge which enhance employment prospects
- access to timely information to allow learners to exercise choice in training
- access to customised products and services
- simple and streamlined administrative and support structures and processes
- access to training which is provided at times and in places which suit industry and individuals
- reliable and easily accessed assessment mechanisms.

The situation in other sectors is broadly similar. To summarise even further, I would say that educational organisations today can no longer say to prospective learners, as in effect they used to, 'we have knowledge; if you want to share in it you must do so on our terms'. Instead, they are saying: 'we can help you to develop your skills and knowledge; how would you like us to do so?' This means that educators are seeking to take their activities past the classroom to the places where learners are (homes and workplaces), and the times when learners want to study.

Old and New Technologies

Technology provides some of the means of doing this, but not the only means. For example, learning centres offering drop-in tutorial assistance offer learners choice of time, and in some cases of place. Such ways of meeting learners' needs are not at all new; nor are devices at the 'low-tech' end of the technology spectrum, such as telephone conferences, which have been used for many years to support adult learning.

It is well to remember, as the waves of hype about on-line technologies splash over us, that under them is a ground-swell of technologies that we don't think much about because they have been with us for so long: print materials, telephones, audio and video tapes. Print in particular continues and will continue to support learning, because it is supremely portable and easy to find one's way around in, and cheap to prepare compared with some other media. The telephone, too, offers instant two-way communication at a reasonable price.

Nor will the classroom easily be superseded, because many learners appreciate the chance to learn with others, away from the daily demands of work and family.

But new technologies enable interaction with people and resources on a scale and with an ease which are amazing. E-mail enables people anywhere in the world to communicate almost instantaneously, and allows documents to be sent along with messages, so that, for example, assignments can be sent between teacher and student no matter what the distance; or syndicate groups of students can work together on an assignment. The World Wide Web, despite its limitations, is becoming increasingly fruitful as an avenue for research. On-line communication enables educational institutions to form partnerships to jointly develop and publish material, and to allow students to enrol on-line, selecting modules from multiple organisations. Video conferencing and satellite broadcasting allow specialist expertise to be imported without the expense of travel. These are just a few of the technologies at present in use in Australia.

New and old methods of teaching, then, are available as a repertoire which educators can draw upon; and they can often be combined successfully. For example, learners who habitually use e-mail to communicate with each other and with a teacher may benefit from a traditional class held at the beginning of each term. The hallmark of success, then, is to choose the method or combination of methods which most suits the group of learners and which is manageable for the educational organisation.

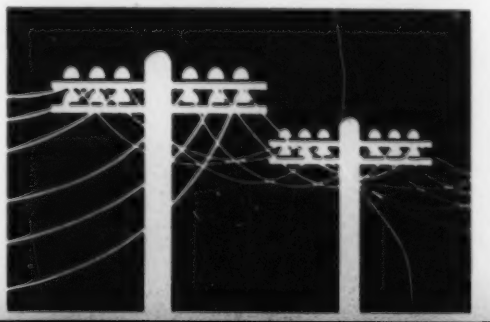
Categorising Technologies

Dr Robin Mason, in her latest book, *The Globalisation of Education*, suggests that:

' There are three broad categories within which current technologies can be divided:

- *text based systems, including electronic mail, computer conferencing, real time chat systems,*
- *MUDS/MOOs, and many uses of the World Wide Web*
- *audio conferencing and audio extensions such as audiographics, and audio on the Internet*
- *videoconferencing, one way and two way, video on the Internet with products like CUSeeMe, and other*
- *visual media such as video clips on the Web .*

The implication of this list is that text, audio and video are discrete media. While this is partially true today, the evolution of all these systems is towards integration - of real time and asynchronous access, of resource material and communication, of text and video.'



Another way to look at technology divides it into dimensions of time dependence or independence, and place dependence or independence. (*Palmieri, P. et el, 1996)*

	PLACE DEPENDENCE		
TIME DEPENDENCE	***High***	***Semi***	***Low***
High	Class	Audiographics Video conference	Telephone Audio conference Radio
Semi	Self-paced and drop-in classes or tutorials Satellite/ Pay TV broadcast (recordable)		Free to Air TV
Low	Library	E-mail World Wide Web Video-on-demand	Print Interactive Voice Response

And a further way considers different formats of technology and the degree of interactivity which they allow. *(Palmieri, 1996, ibid)*

	DEGREE OF INTERACTIVITY		
FORMAT	**Distributive** **(one to many)**	**Centralised Interactive** **(many to one)**	**Communicative** **(one to one and many to many)**
Voice	Radio	Interactive Voice Response	Telephone Audio conference
Text	Books Printed Learning Materials	Fax Audiographics World Wide Web	Mail E-mail Newsgroups
Visual	Satellite/ Pay TV	Video library Video-on-demand on Cable Networks (ADSL)	Video conference - desktop - group - bandwidths

The teacher's role

What does all this mean for the teacher? I well remember suggesting to a group of teachers that their role would change to that of the facilitator of a group of learners who would be learning more and more independently. One member of the group expressed outrage that the skills of teaching which she had acquired over a long career were being devalued; and on consideration, I realised that she was right. We cannot afford to put education in the hands of people who simply act as walking bibliographies, directing their students to one resource or another. Certainly, learners can get a large part of their information from books, from the World Wide Web, or from other sources (as indeed they always have). But the kernel of the teacher's role does not change, and that is to help learners to work out what they need to learn, to help them to find the information they need, to give them the confidence to keep breaking new ground, and to reflect the degree of success they have achieved. What many teachers have always done, and what more teachers must learn to do, is to progressively hand over the reins of control of learning to the learner, while remaining present in the learning process to provide support as needed.

In this situation, less lecturing and information imparting is needed as learners acquire more information from outside sources. Teachers will need to advise their learners about how to search for information, and how to assess the quality of the information they find. They will need to learn to use other methods than the spoken word and body language present in a classroom to ascertain whether and how their students need extra help. They will need also to learn to encourage learners to use each other, as well as friends and workmates, as people who support their learning.

At an organisational level, teachers need skills to select the most suitable delivery methods and technologies for their students, and of course they need the technical skills to operate their chosen technologies. This in turn places an obligation upon teaching organisations to provide professional development and technical support for their teaching staff.
Teachers also need to take part in the development of learning materials in various media. The skills here are analogous to, but different from, those needed to develop print material.

A further set of skills which is vital but often unrecognised relates to distant communication and liaison, not only with students but also with colleagues in other organisations, since development of materials and delivery of programs, as suggested above, is increasingly being done by partnerships of organisations.

It is of course unrealistic to expect every teacher to acquire all these skills. Fortunately, successful organisations usually recognise that successful programs rely on team work, and teams may include, as well as teachers, technical staff, student counsellors, librarians, administrators, media specialists and others.

Preparing for technology

How best can you prepare yourself for a technological future? If you are confident with technology, then use it! Explore the World Wide Web for sites relating to your area of interest; search for e-mail discussion lists; participate in the activities of professional associations that use or demonstrate technologies.

If you are not confident with technology, then again I suggest that you experience as much as you can. There is sure to be a learning centre, school, TAFE institute or university near you; with a colleague, you could explore their activities and assess for yourself what technological delivery has in common with more traditional forms, and where it really differs. As a start, if your can arrange a session with a colleague who has World Wide Web access, you could visit the home page of the Victorian Open Learning Network and have a look at some of the activities taking place today. You can find the VOLN site at http://www.eduvic.vic.gov.au/voln and I am sure it will provide you with some contacts to explore further. Most of all, talk to people who have gone through the process of fitting technology into their working lives.

Phoebe Palmieri runs a consultancy in Open and Flexible learning with an emphasis on technological delivery.

References:

Flexible Delivery Taskforce, 1996, ***Final Report of the Taskforce,*** Australian National Training Authority, Brisbane

Mason, R, ***The Globalisation of Education,*** in preparation

Palmieri, P et al, 1996, ***From Chalkface to Interface: Developing On-line Learning***, Office of Training and Further Education, Melbourne

> ***"At an organisational level, teachers need skills to select the most suitable delivery methods and technologies for their students, and of course they need the technical skills to operate their chosen technologies."***